



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,688	04/21/2006	Hiroyuki Hayashikawa	043890-0786	7184

53080	7590	09/07/2007
MCDERMOTT WILL & EMERY LLP		
600 13TH STREET, NW		
WASHINGTON, DC 20005-3096		

EXAMINER	
PARK, KINAM	

ART UNIT	PAPER NUMBER
2828	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,688

Applicant(s)

HAYASHIKAWA ET AL.

Examiner

Kinam Park

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/21/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

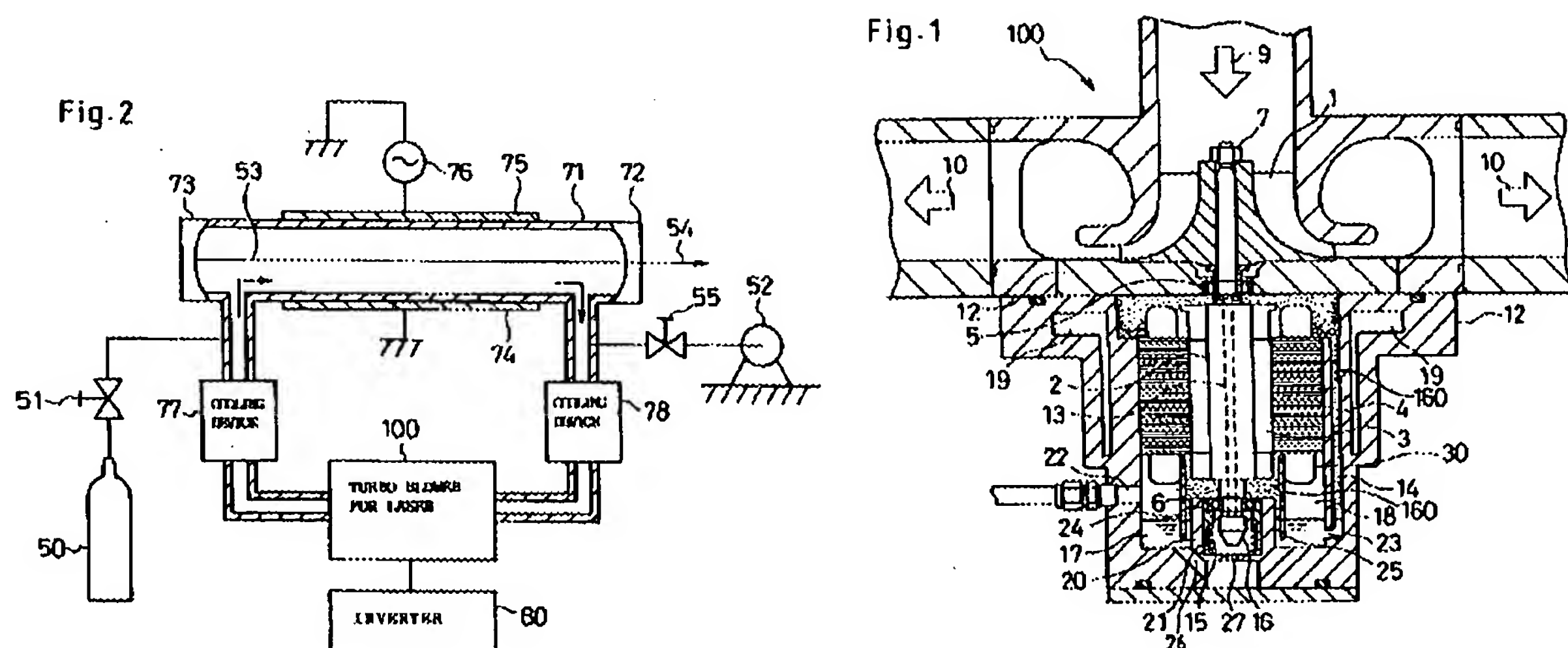
1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karube et al. (US 5966398) in view of Akiyama (US 6067498).

Regarding **claim 1**,

Karube et al. discloses in figure 1, 2 and the specification a discharge part (71), an air blower (100), a laser gas flow pipe (see, pipe line in 100) constituting a circulation route (see, arrow in figure 2) of laser gas between the discharge part (71) and the air blower (100), a driving part (30) for driving the air blower, a divide wall (12) separating the air blower (1) and the driving part (30), a gas supply apparatus (50) having at least one valve (51), and supplying laser gas to the laser gas flow pipe (see, figure 2), a main ejection apparatus (52) having at least one valve (55) and ejecting laser gas out from the laser gas flow pipe (see, figure 2), a sub ejection apparatus (22) ejecting the laser gas from the driving part (30) of the air blower.



However, Karube et al. is silent as to a detector for detecting an amount of the laser gas ejected from at least one of the main ejection apparatus and the sub ejection apparatus.

Akiyama discloses an abnormality detection apparatus that detects an abnormality in the exhaust gas temperature and the blowby gas pressure.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to combine the abnormality detection of Akiyama with a gas laser oscillator of Karube et al. because this provides the detecting means for an abnormality in the exhaust gas system having the presence of clogged parts (see, col.1, lines 42-43 of Akiyama).

A controller controlling each valve of the gas supply apparatus and the main ejection apparatus, a clogged laying pipe judge part judging the laying pipe of the sub ejection apparatus to be clogged when an ejected amount of the laser gas is smaller than a predetermined value, a signal from the detector input to the controller, and the controller

Art Unit: 2828

compares the ejected amount of the laser gas with a predetermined value at a time the valve of the main ejection apparatus is closed, are insignificant in this art since these are inherently contained in the operation described in the specification.

Regarding **claim 3**,

Note that Akiyama discloses in Abstract an alarm output means.

Regarding **claim 2**,

The judgment of clogged laying pipe based on the opening and closing cycle of the valve is insignificant in this art since it is the judgment method applied to the apparatus having the duty (open/close) cycle operation.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

lehis (US 4956846) discloses the gas laser device.

Froloff et al. (Pub No. 20060052930) discloses the air-hybrid and utility engine.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kinam Park whose telephone number is (571) 270-1738. The examiner can normally be reached on from 9:00 AM-5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **MINSUN HARVEY**, can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent

Art Unit: 2828

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KP

A handwritten signature in black ink, appearing to be 'KP' followed by a stylized flourish.